



Tennessee Pollution Prevention Roundtable

Thursday, December 7, 2006

Delta Faucet

Jackson, Tennessee

Next TP2R meeting dates:

- Thursday, March 15, 2006, East TN Environmental Conference, Kingsport
- Thursday, June 7, 2006 (TBD) Nashville area

Notes from the December 7, 2006 Roundtable Meeting

The December 7th 2006 meeting of the TP2R was held in West Tennessee at Delta Faucet of Jackson, a TP3 Performer industry and EPA Performance Track member. Ann Olsen of Vanderbilt University facilitated the meeting with 25 in attendance.

TP3 Partner Recognition

The group honored the two newest TP3 Partner industries, ABB Power of Alamo, and Bridgestone Firestone of LaVergne. Ms. Anita Revelle received the Partner certificate and banner for ABB, acknowledging the support of her management and enthusiasm of her team.



Mr. Greg Morris received the banner and certificate for Bridgestone Firestone, LaVergne facility. The facility has a long history of environmental leadership; for example, it was the first tire manufacturing plant in the US to achieve ISO 14001 certification



Higher Education Subcommittee--

Jack Barkenbus, now with Vanderbilt University's Center for Environmental Management Studies, discussed the progress of planning a higher education environmental conference for Tennessee in March of 2007. The second annual conference on Higher Education and Sustainability will be held at **Belmont University, Nashville, on March 28-29, 2007**. Suggestions for sessions at the conference are welcome. Dr. Barkenbus also mentioned that the group of schools organizing the conference is researching becoming an organization or at least a chapter of some national organization.

Green Schools Program --

Cynthia Rohrbach gave the group an update on the Green Schools program. This is the group of primary and secondary schools that are members of the Tennessee Pollution Prevention Partnership (TP3). Three Green Schools achieved Partner status in September: Huntingdon Primary School in Carroll County, Fayette Academy in Fayette County, and Tullahoma High School in Coffee County.

Cynthia presented a model of an Environmental Notebook, developed to describe an environmental management system (EMS) in a user-friendly, appropriately scaled manner. The Environmental Notebook represents a solution particularly to the EMS issue of all TP3 membership categories meeting the same criteria for Performer level. A model has been created for K-12 schools, which can be modified for households, small businesses, organizations, and other "unregulated" entities. The Environmental Notebook will contain an Environmental Policy Statement, School Environment Evaluation (K-5 or 6-12 version), TP3 Plan, 5 Success Stories, documentation of Community Outreach and Mentoring, and selected photos, along with documentation demonstrating the "Plan-Do-Check-Act" elements. The Evaluation is to be conducted every year and the TP3 Plan modified as necessary – this process is similar to annual performance review with follow-up setting of goals and targets. It is meant to involve students and to be an educational experience.

The School Chemical Cleanout Campaign, SC3, has been receiving EPA grant funding that ended September 30, 2006. During the two-year grant period, 89 schools had their legacy lab chemicals cleaned out – 29,415 pounds of waste, including 602 pounds of mercury. A new grant proposal was recently sent in to EPA to continue this project. Deputy Commissioner Paul Sloan is also working on getting a permanent fund set up that will come from the Real Estate Transfer Tax.

Cynthia also described other TDEC Environmental Education Initiatives. As the Green Schools Coordinator, she participated in the Environmental Education Summit at MTSU in April, where Paul Sloan was the keynote speaker. The purpose of the summit was to brainstorm ways to increase environmental literacy in Tennessee and to come up with concrete steps. TDEC is assisting with one of the projects – development of the new environmental education web site, where nature centers, state parks, and other EE organizations can put their information. The web site www.eeintennessee.org will serve as a clearinghouse for resources, events, and organizations that promote environmental education in Tennessee. The site is up and running while it is being developed. The Green Schools Program has an active page.

Project CENTS Coordinator, Tami Coleman, attended the TP2R meeting. Her position (funded by TDEC) is located at Department of Education and is reviving the CENTS program by training facilitators (train-the-trainers) to certify teachers and other educators in the environmental curricula Project Learning Tree, Project Wild, Project WET, and Project Flying Wild.

Cultivating P2 Conference:

Commitment Challenge--

Diane Scher led a discussion about the P2 Commitment Challenge first proposed at the Cultivating P2 Conference at Montgomery Bell. The challenge was explained and the form was distributed to those in attendance. For your convenience, the form is attached to the end of these notes, or obtained by contacting your area TP3 contacts or the office of OEA. **Partners and Performers should submit their Commitment Challenge by February 28, two weeks prior to the March TP2 Roundtable meeting**

Results of the challenge and the success realized will be featured at the next P2 statewide conference in 2008.

Working Sessions Output—

The facilitated session, Cultivating P2 Solutions, resulted in many examples and suggestions that may be useful in other applications. Please look over the extensive list, at the end of this document, for details.

TP3 Households--

Donovan Grimwood, head of the first household to achieve TP3 Partner status, led a discussion on how to provide resources for TP3 household members throughout the state. This is the fastest growing section of the TP3 network of households, businesses and industries of all sizes, schools, organizations and government agencies working together to protect our shared environment.

The Environmental Notebook was brought up immediately as a format for an EMS for those households working to achieve the Performer level of TP3. There are also several organizations of homebuilders with resources that would be useful to TP3 households.

Holding a meeting for just the TP3 households and holding training workshops for just these members was suggested and discussed. TP3 industries member outreach activities could include encouraging employees to sign up as households and providing assistance from the various environmental managers.

Those wishing to learn more on this topic are encouraged to contact Donovan Grimwood with OEA.

Tennessee Environmental Forums--

Vaughn Cassidy described the West Tennessee Regional Environmental Forum and how it has evolved into an e-mail discussion group.

Charles Jobe then discussed the Middle Tennessee Regional Environmental Forum. This group has had tremendous success over the last year. Most notably, MTREF partnered with other individuals and

organizations to bring William McDonough, internationally renowned architect and co-author of *Cradle to Cradle: Remaking the Way We Make Things* (www.mcdonough.com), to Vanderbilt for a public speaking engagement (www.tnfund.org/events) that drew a very large and diverse audience. For those who missed this event, McDonough's lecture may be viewed at http://media-srv1.its.vanderbilt.edu/ramgen/its/csdc/csdc_mcdonough_060926.rm.

Multi-State Working Group Regional Meeting Feb 5 & 6, 2007

Karen Grubbs introduced the upcoming regional meeting of the Multi-State Working Group, to be hosted by TP3 member Louisiana Pacific Corporation at their Nashville headquarters. This meeting is part of the initiative announced by the MSWG at the 2006 Environmental Summit in Atlanta in May 2006. The February meeting in Nashville is open to the public, and TP2R members are encouraged to attend. This is an opportunity to interact with counterpart environmental professionals from the region including neighboring states. Please visit www.mswg.org for more information and to register for the workshop. Feel free to share with others!

TP3 Workshops--

Curtis Hopper and Karen Grubbs discussed having TP3 workshops throughout the state. TP3 Performers and Partners would be given the opportunity to assist in planning and carrying out the workshops in their areas. The workshops would provide assistance in progressing through the levels, dialogue with TDEC management and staff, and would allow for networking opportunities among TP3 members in addition to TP2R meetings and conferences. After quite a bit of positive feedback from the industrial members present, there was general agreement regarding the potential benefit of the proposed workshops.

Wrap Up--

An idea for regional roundtable meetings was suggested and discussed. This idea involved holding regional roundtables on the same day with the same general agenda. The main advantage would be less travel and more participation. Holding simultaneous meetings of the TP2R would require strong commitment from regional members willing to commit the time to plan and carry them out. Additionally, we have been requested to provide conference call connection. The planning team will discuss both ideas in preparation of future meetings.

Next meeting--

The next meeting will be during the East Tennessee Environmental Conference on March 15, 2007. The two-day conference will be held at the Meadowview Conference Center in Kingsport, TN. For more information on this conference, including the agenda, and to register please visit www.tnenvironment.com.

Adjourn--

Ann closed the meeting, and the group assembled for a tour of the Delta Faucet facility, followed by a hearty lunch.

Thanks, Delta!

TP2R Attendee List for December 7, 2006

Name	Affiliation	Email Address/Phone Number	Postal Address
Dr. Jack Barkenbus	Vanderbilt University	barkenbu@utk.edu	Nashville TN 37996-4134
Mr. Vaughn Cassidy	TDEC-JEFO Environmental Coordinator Office of Environmental Assistance	vaughn.cassidy@state.tn.us 731-512-1343	362 Carriage House Dr Jackson TN 38305
Mr. Joe Chester	URS Design Firm Vice-President Infrastructure Services, Tennessee Region	Joe_Chester@URSCorp.com 615-771-2480	1000 Corporate Centre Drive, Suite 250 Franklin TN 37067
Ms. Tami Coleman	TN Dept of Education CENTS Coordinator Environmental Education	Tamara.Coleman@state.tn.us 615-741-6055	710 James Robertson Pkwy Nashville TN 37243
Mr. Donovan Grimwood	TDEC-OEA	donovan.grimwood@state.tn.us 615-532-4966	401 Church St Nashville TN 37243
Ms. Karen Grubbs	TDEC-OEA Manager, Education and Outreach Office of Environmental Assistance	karen.grubbs@state.tn.us 615-532-0463	401 Church, 8th Floor Nashville TN 37243-1533
Mr. Walker Harmer	Marvin Windows and Doors	r_walkerh@marvin.com 731-635-6428	101 Marvin Road Ripley TN 38063
Mr. Jeff Haynes	Delta Faucet Co	jdh@deltafaucet.com 731-988-9010	3441 Ridgecrest Road Ext Jackson TN 38305
Mr. Richard Holland	Packaging Corp of America	RHolland@packagingcorp.com	
Mr. Curtis Hopper	TDEC-OEA TP3 Program Coordinator Office of Environmental Assistance	curtis.hopper@state.tn.us 615-253-1729	401 Church, 8th Floor, L&C Tower Nashville TN 37243
Mr. Charles Jobe	TDEC-NEFO Environmental Coordinator Office of Environmental Assistance	charles.jobe@state.tn.us 615-687-7074	711 RS Gass Blvd Nashville TN 37216
Mr. Greg Morris	Bridgestone/Firestone NT, LLC Environmental Affairs	morrisgregor@bfusa.com 615-231-6971	556 Marriott Drive, Ste 500 Nashville TN 37214
Ms. Ann Olsen	VCEMS	ann.olsen@comcast.net 615-354-0180	617 Harpeth Trace Dr Nashville TN 37221
Ms. Anita Revelle	ABB, Inc.	anita.j.revelle@us.abb.com 731-696-5361	1128 S. Cavalier Dr Alamo TN 38001

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Name	Affiliation	Email Address/Phone Number	Postal Address
Ms. Cynthia Rohrbach	TDEC-OEA TP3 Green Schools Program Coordinator Office of Environmental Assistance	cynthia.rohrbach@state.tn.us 931-490-3929	2484 Park Plus Dr Columbia TN 38401
Mr. Wayne Scharber	Tennessee Chamber of Commerce and Industry	wayne.scharber@tnchamber.org 615-256-5141	611 Commerce Street, Suite 3030 Nashville TN 37203-3742
Ms. Diane Scher	Bridgestone Firestone NT, LLC Manager, Environmental Affairs Environmental Management	ScherDiane@bfusa.com 615-937-6971	535 Marriott Drive, 7th Floor Nashville TN 37214
Mr. Mark Schwartz	Old Hickory Watershed Association Chairperson	mfs3d@netzero.com 615-371-9898	PO Box 718 Old Hickory TN
Mr. Jason Smith	Tecumseh Products Company Paris Division	jsmith@tecumotor.com 731-644-8127	PO Box 1208 Paris TN 38242
Dr. Rebbecca Cook	Lambuth University	731-425-3278	705 Lambuth Blvd Jackson TN 38307
Ms. Lindsay Roe	Lambuth University	lroe2705@student.lambuth.edu	705 Lambuth Blvd Jackson TN 38307
Mr. Jim Deming	National Council of Churches Interfaith Climate & Energy Campaign	jimdeming@comcast.net 615-438-7133	592 Harpeth Trace Dr Nashville TN 37221
Mr. Dana Scates	Volvo Penta Marine Products	dana.scates@volvo.com 731-968-0151	200 Robert Wallace Dr Lexington TN 38351
Ms. Candy Overstreet	TDEC-SWM Solid Waste Management	Candy.Overstreet@state.tn.us 731-512-1374	1625 Hollywood Jackson TN 38305
Mr. Jeff Gowdy	Kilowatt Ours	gowdy@kilowattours.org 615-473-4098	

TP3 Membership Statistics

December 4, 2006

TP3 Category/Level Totals

<i>Category</i>	<i>Level</i>	<i>Total</i>
Business	Pledge	20
	Prospect	58
<i>Business</i>	<i>Total :</i>	78
Gov't Agency	Performer	1
	Partner	0
	Pledge	11
	Prospect	34
<i>Gov't Agency</i>	<i>Total :</i>	46
Household	Partner	1
	Pledge	15
	Prospect	62
<i>Household</i>	<i>Total :</i>	81
Industry	Performer	7
	Partner	16
	Pledge	35
	Prospect	56
<i>Industry</i>	<i>Total :</i>	114
Organization	Pledge	8
	Prospect	25
<i>Organization</i>	<i>Total :</i>	26
School: K-12	Performer	1
	Partner	11
	Pledge	65
	Prospect	131
<i>School</i>	<i>Total :</i>	213
School: HE	Partner	1
	Pledge	9
	Prospect	11
<i>School</i>	<i>Total :</i>	21
<i>Total TP3 Membership</i>		581

If you are not currently a member of TP3, visit our website to learn more about the Partnership and see how easy it is to Sign Up!

www.tp3.org

or

www.tdec.net/ea/tp3



TP3 Membership Level Totals

<i>Level</i>	<i>Total</i>
Performer	9
Partner	29
Pledge	166
Prospect	377
<i>Total</i>	<i>581</i>



TP3 COMMITMENT CHALLENGE

At the 2006 Cultivating P2 Conference, the TP3 Performers launched the Tennessee Pollution Prevention Commitment Challenge. Participants would report current environmental improvements and set two-year goals for further progress. These quantified results will be presented at the 2008 TN Pollution Prevention Conference. The Commitment Challenge focuses on five central environmental areas where, as reductions occur, we improve our overall environmental position. We welcome participation from other entities within Tennessee that want to positively impact the environment, even those who are unable attend the conference.

The information will be tallied and identifying information will be kept confidential. Periodic updates will be shared through the Tennessee Pollution Prevention Roundtable and the Tennessee Pollution Prevention Partnership. Bob Booker, Legal and Environmental Engineering Manager at TP3 Performer DENSO Manufacturing Tennessee, will receive the data and compile the results. Please participate in this challenge and help us demonstrate that organizations do care about our environment and are taking steps to improve it. Contact Bob Booker at (865) 981-5203 or by email at bob_booker@denso-diam.com for more information about this Challenge and how to participate.



TP3 COMMITMENT CHALLENGE

Environmental metrics are used to measure successes from pollution prevention (P2) projects. The Tennessee Pollution Prevention Partnership (TP3) is challenging all TN 2006 P2 Conference participants to commit to reducing their environmental impact in the five (5) P2 project areas:

P2 Project Areas	Baseline Year	Unit of Measure	Normalizer	Target
1. Clean Air				
2. Energy Conservation				
3. Hazardous Materials Management				
4. Land and Water Conservation				
5. Waste Reduction				

Baseline Year: The beginning year used as a basis for comparison (example: 2005)

Unit of Measure: Examples include: tons VOC, kWh electricity, ccf natural gas, gallons water, pounds hazardous waste

Normalizer: A normalizer is used to adjust the target for increases in production, sales, or manpower (example: sales, number of employees, production quantity etc...)

Target: A desired goal (example: 10% reduction)

Results will be shared at the next TN Pollution Prevention Conference

Company Name _____

Address _____

City _____ State _____ Zip Code _____

Are you in TP3 member? Yes___ No___ If no, are you interested in joining? Yes___ No___

Please complete and send to:

Bob Booker
Denso Manufacturing Tennessee, Inc.
1720 Robert C. Jackson Drive
Maryville, TN 37801-3797



Cultivating Pollution Prevention 2006 *Working Sessions Documentation* **Cultivating P2 Solutions**



Input: Focus on what comes into your facility, school, household. Jack Barkenbus, Facilitator
Just-in-time inventory and product inventory – Cummins/GM
Eliminating chemicals in schools – Tullahoma High School/green chemistry
Control of procurement – review and approval process (Fisk)
Used integrated pest management (IPM) vs. traditional pest control (Wilson County)
Environmentally preferable janitorial supplies via supplier specification (ORNL)
Office design/materials-use of certified products, e.g. wood (LP)
Use of returnable packaging – Cummins GM
Approval process of chemicals and samples that come into plant – Delta Faucet
Make sure all samples have a return address – Delta Faucet
Reformulate to allow 10% recycled waste back into product – Pat Lynch, Calsonic
Change product offered to customer to eliminate painting process on aluminum; worked with supplier to paint. – Marvin Windows, Walker Harmer
Raw Materials/Suppliers: Bridgestone Firestone eliminates use of hazardous raw material
Require suppliers cannot impact aspects of EMS by contract. Suppliers certify to “IMDS” no certain metals. – Calsonic, Pat Lynch
“Environmentally Preferred Purchasing” – report to DOE on 64 different categories, office supply...roof material. – BWXT Y12, Sara Cornwell
Change machining coolants to one that is recyclable, rechargeable. – JTEKT, Adrian Ridley
Choose coolant fluid that can be used in hydraulic fluid side and cutting fluid side – Delta Faucet, Jeff Haynes
Computers used are Energy Star, making sure that office equipment is environmentally friendly – UT, URS, Y12
Green Power/Green Energy Switch
Biofilter reduces use of natural gas use and air emissions (pilot program)
Buying recycled paper etc.
Design of product (waterborne paint for vehicles)
Change drink machines to offer aluminum instead of plastic
Use filter paper made from recyclable/recycled material
Production: Focus on what happens on-site. Shari Meghreblan, Facilitator
Baling recyclable plastics to reduce transportation (Kevin - Calsonic)
Reduce waste by reusing used oil and cutting fluids mixture (Jeanette - Denso; see Success Story)
Recycle coffee grinds by using in garden (Starbucks will actually give these away free)
Recycle printed circuit boards at a cost savings instead of a cost (Bob - Denso)
GM reduces water usage by looking for alternative uses of waste water (Lisa - GM)
Fisk uses microscale and green chemicals in labs to reduce hazardous waste and toxic overexposure
TDEC uses green building specs on new building leases (Mark - TDEC)
Oak Ridge reduces stormwater runoff by using pervious concrete, native plants.



Cultivating Pollution Prevention 2006 *Working Sessions Documentation* **Cultivating P2 Solutions**



Oak Ridge reduces energy usage by using reflective roof paint and night friendly lighting (LEED certification)
Cummins repairs air leaks to improve compressor efficiency and save energy
TDEC School Program Schools increase types of recycling to include: cell phones, printer cartridges, etc. (TDEC - Cynthia R.)
Centennial High School constructed rain barrels for water conservation (Dawn J. - Centennial)
EPA Performance Track reduces paper usage with a paperless conference. (Eileen McGovern - EPA)
EPA P2 office reduces paper usage by setting printer default to 2 sided.
EPA P2 offices also reduce paper usage by reformatting to "book pages" thus getting to sheets to one side of paper. (Dan Ahern - EPA)
Use Magic Slide wipe off board (like the kid's toy) by phone for message instead of notepaper.
Promote carpooling and public transportation by subsidizing employee's mass transit costs (LP)
LP encourages increase in volume and types of office recycling by providing incentives for individual and corporate wide efforts (Phi Ly, LP)
Lambuth University reduces paper usage by using 2-sided copies and encouraging electronic submission. (Lambuth U.)
Quillen saves water and energy in laundry service
GM-Spring Hill reduces solvent use in painting operations (GM - Lisa)
Cummins Filtration reduces HAQP emission in painting operations (Cummins)
Volvo reduces air emissions by substituting xylene with MEK into paint (Volvo - Dana)
TDEC increases variety of recyclables at office to include cell phones, printer cartridges, etc. (TDEC Jackson Field Office - Vaughn)
Toshiba utilizes Global Green Procurement to reduce hazardous material content.(Toshiba - Matt)
Denso reduces hazardous waste by using a mixture of Joy dishwashing detergent and water to clean pallets instead of alcohol (Denso - Jeanette)
State parks reduce waste by switching to individual sized toiletries (i.e. shampoo, lotion, etc) for guests
Output: Focus on what goes offsite, out the door and into the community. Elaine Boyd, Facilitator
Sludge from grinding gears: Puck the metal sludge; and sell it (recycle the coolant) to ET Iron and metal (primarily 1040 steel). Benefits include Landfill avoidance (special waste). Cost: Puck machine \$100,000 with payback 9-10 months Contact: Adrian Ridley or Sandra Graves--JTEKT Automotive Tennessee-Vonore
Safety expo 12,000 people shared experiences and environmental successes; 150 vendors Contact: Jan Jackson--DOE/BWXT Y-12
Creek cleanup – 140 plant employees and Road Clean up; Partnered with City (Mayor) with Ice cream social/prizes; Visible impact and building relationships; Contact: Greg Morris, Bridgestone Firestone NT, LLC – LaVergne Plant
Personal Care Products manufacturer: Recycle discarded bottles and reuse cardboard package that comes into plant Contact: Charles Larry Weaver--Cumberland Swan Holdings, Inc.
Cumberland County High School Community Service litter cleanup
TN Concrete Association has developed an Innovative Product Mix; Contact: Alan Sparkman
Building Outside the Box promotes Sustainable building; Contact: Gwen Griffith -- Cumberland River Compact
Internship program, high School and younger, benefits students and employers -- Sharon Walker, TDEC/OEA
Partner with Chamber for outreach; Contact: DENSO



Cultivating Pollution Prevention 2006 *Working Sessions Documentation* **Cultivating P2 Solutions**



Logistics: Focus on transporting materials and people on and off site. Alan Jones, Facilitator
Denso Manufacturing reduces pollution through integrated logistics
Back haul raw materials and avoid empty returns -- Marvin Windows
4 day production week: 1 day = commutes avoided; If down day, that's the day off; maintenance on those days Especially if they work 5 days-- Maytag
Toshiba: Marking locally (Afford to recycle and transport materials - Not possible if greater distance)
Leasing hybrids – Toshiba
Dell – schedule shipments at night
Full truck loads inside 440; SERP, Christina—TDEC/OEA
Mass Transit: Partnerships with MTA: Vanderbilt & Belmont
New ways to ensure accuracy of volume (recycling)
Using biodiesel; voluntary changeover
Packaging more goods per container, fewer trucks on road
Smartway transport partnership
Purchase from closest supplier
Biodiesel use in diesel vehicles
Trip chaining – several errands at once
Eliminate unnecessary idling; Company policies, Kill switches
Ride sharing, Carpool, Vanpool
Tele-commuting for employees
Alternative works schedule
Compressed work weeks
Shared Positions
Fleet vehicle efficiency Hybrids, 2007 compliant diesels
Vehicle washing – wastewater
Re-refined oil
Baler – cardboard and other materials; Route – Planned pickup; Safety benefits; Keep boxes off the floor
Returnable, reusable shipping containers; Paint, lubricant, etc., in returnable totes
Dust control on non-paved areas [Calcium Chloride, Magnesium Chloride (Hydroscopic)]
Energy: Focus is on energy use optimization. Ken Nafe, Facilitator
UT buying Green Energy
Maytag compressor system for on – demand supply
Wilson and Associates – smaller vehicles more efficient
Maytag – shifted to 4 10-hr shifts; e.g., 3 days off –savings to employees for gas savings
Maytag – counter-current and rinsing to save water (heated)
State of TN – energy management system to save energy



Cultivating Pollution Prevention 2006 Working Sessions Documentation

Cultivating P2 Solutions



Bridgestone changed tire curing from hot water to nitrogen. Saves \$2.9 million/year in electricity costs and 4.96 mil KW/year
BNA – on site auxiliary vehicles now Hybrid
Denso – shut down cooling towers in winter
Bridgestone – use waste process heat to supplement heating system
DENSO – looking at compressed air nozzle sizes for energy efficiency
JTEKT – part washing and air cleaning machine to conserve
TDEC – new cabins will be LEED certified (energy efficient)
Revelle (ABB, Inc.) – H/D replaced with T8 lights saved on energy and disposal
BOB – all houses Energy Star. Biggest savings: on-demand natural gas water heaters
New Earth to Air System (company), may be more efficient and have better urban applications
Oak Ridge zero-energy community modeled after Habitat for Humanity
Construction stores may sell energy efficient appliances to Habitat for Humanity at discount
Vigilant about ceiling joints, seals. Use mastic
Use geothermal systems
Gravity feed; demineralized water also used
Every kwh of energy in coal plant = 25 gal/water
Eliminate air leaks can reduce compressor needs
Insulate hot water piping